connecting a non-used port of the node of the lowest priority with a port of the node of

the next priority; and

repeating the connecting step until all of said nodes are connected together, whereby said

nodes are connected through said communication ports according to priority order.

3. (Twice Amended)   A method of optimizing a topology of a serial bus having a

plurality of nodes each with communication ports, comprising the steps of:

comparing a total number of ports of all of said nodes with a reference value varying with

the number (N) of said nodes to determine whether a prerequisite for constructing said topology

is satisfied, the prerequisite being that the total number of ports of all of said ports is not less than

2(N-1);

prioritizing said nodes according to the number of said communication ports and a

transmission speed of said nodes when said prerequisite is satisfied, such that nodes of higher

speed have higher priority than nodes of lower speed and nodes of equal speed are prioritized so

that nodes having more of said communication ports have a higher priority than nodes having

fewer of said communication ports;

connecting a non-used port of the node of the lowest priority with a port of the node of a

next higher priority;

repeating the connecting step until all of said nodes are connected together; and

separating the last connected node to assign to the node of the foremost priority among

nodes in a next higher speed group than the separated last connected node when no port remains

in the node of the lowest priority to connect with the node of next priority during the repeating

step, whereby said nodes are connected through said communication ports according to priority

order.